

convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. The Examiner's reconsideration of the outstanding rejections is respectfully requested and the interference instituted, for the reasons recited herein below.

The Examiner's interview of September 24 and the interview the same day with SPE Morano is acknowledged and appreciated. The discussion during the interview pertained to the institution of an interference with the Foreman patent and the requirements which the Examiner felt needed to be met prior to contacting an interference examiner. No agreement was reached during the interviews. Between the Examiner's discussions during the interview, the further discussions of SPE Morano, and the well-drafted office action, the applicant's representative has more knowledge with which to draft the present amendment and response. For the Examiner's assistance and patience, and that of his SPE, the applicant's representative is grateful. The present amendment, declarations, and attachments are believed to now fully provide the requisite prima facie level of support for the interference required by 37 CFR 1.608(b) and MPEP 2308.01 - .02, and provide further support in the areas identified by the Examiner in the outstanding office action.

In view of the interview, newly added claims 40 - 52 are provided which recite the features of the Foreman claims, but substituting in the exact language of the applicant's specification, as taken from the attached declarations. In other words, where Foreman claims an elongate drive tube, using the identity set forth in the attached declarations, the claims 40 - 52 will recite casing. As discussed during the interviews by applicant's representative, applicant's representative does not understand the need to use the exact words found in applicant's specification, since those skilled in the art recognize the words as interchangeable, and, further, one skilled in the art would be enabled by the present application for the words used in the Foreman claims, which fulfills the requirement of 35 U.S.C. § 112, first paragraph. Nevertheless, these new claims are included herewith to facilitate the Examiner initiating contact with an interference examiner for the identification of counts for the present interference, which is hoped to thereby expedite prosecution.

The Examiner recognizes that claims 21 - 31 are copied verbatim from allowed published patent application number US 2001/0041482, and that those claims in addition to the new claims 38 - 52 are provided for the express purpose of instituting an interference, in accord with MPEP § 2304 and 37 CFR 1.604. As earlier discussed, the applicant and his representative recognize that it is unusual for support to exist for verbatim claims. However, the applicant's representative notes the

history and correspondence from Mr. Fisher to Mr. Foreman resulted in Mr. Foreman adopting many of Mr. Fisher's concepts verbatim, leading ultimately to the present situation.

Newly added claims 53 - 72 are claims slightly revised from those filed in the parent application, which are believed to include independent patent novelty. They are timely included herewith, whereby, in the event an appeal becomes necessary in the present application, each of the outstanding issues may be decided simultaneously, thereby reducing the burden on the Board of Patent Appeals and Interferences. These claims have been amended in light of the Examiner's initial rejection, to better define the novelty found therein. The Examiner will recognize that the Lovell patent earlier cited does not illustrate the use of a bearing structure. Furthermore, the Lovell construction will be unsuitable for application with mud motors, owing to the separate anchoring of outer housing 24 through strut 12. The present claims 53 - 72 recite ball bearings, the challenges for use which are well described in the present application, and recitations that the housing be supported by the casing. These features, and others found in these present claims, are not taught or suggested by Lovell.

While support for the claims copied verbatim from Foreman has been reprinted herein below from the previous amendment on a claim by claim basis, the Examiner has raised several additional concerns which are addressed herein. More particularly, the examiner states in the outstanding office action that the specification does not clearly provide a marine mud motor, a drive tube that includes a drive assembly housing, a bearing in rotational communication between the drive assembly housing and the drive shaft, and a seal configured to restrict contaminants from entering the drive assembly housing, as claimed. The present declarations establish that the words "mud motor" are common language used to refer to applicant's invention in the industry, at item 3 in the Richard Fisher declaration. Both declarations further establish the interchangeable nature of the remaining words or phrases. As aforementioned, the drawings of the Foreman patent and present application, which are strikingly similar, further establish the identity of the words, through their association with like or identical components.

The declarations establish the interchangeable nature of the words as they are understood in the industry, with respect to the features cited by the Examiner. Applicant's representative observes that the rejection under 35 U.S.C. §112, first paragraph is statutorily based upon what the subject matter would reasonably convey to one skilled in the relevant art. With each component clearly

illustrated within the drawings, the applicant's representative contends that these drawings alone provide sufficient descriptive support to one skilled in the relevant art. Nevertheless, the present declarations establish that the words themselves are also readily recognized as interchangeable, and would most certainly convey the same meaning to one skilled in the art. The statute does not require identical words to be used, but instead addresses what the subject matter would reasonably convey to one skilled in the art. If 35 U.S.C. §112 did require identical verbiage, the Examiner will immediately recognize that no interference would ever be possible, always owing to lack of enablement under 35 U.S.C. §112. Alas, at least one element or component in every potential interference is bound to be described using a different name or title. Each applicant is permitted to be his own lexicographer. To borrow a well-known phrase, a rose by any other name is still a rose. Such it is with the present application and the Foreman patent. This fact will be at once recognized by those skilled in the art upon a review of the present disclosure and the granted patent. Consequently, and with respect to the phrases specifically identified in the declarations as being recognized as interchangeable to those of ordinary skill in the art and for which the drawings illustrate like or identical components, the Examiner is respectfully requested to withdraw the outstanding rejection under 35 U.S.C. §112, first paragraph with respect to claims 21 - 31.

Several additional points were raised by the Examiner in the outstanding rejection of claims 21 - 31 that are not solely addressed by the declarations, and which therefore merit further discussion herein. In the outstanding rejection, the Examiner states that the present specification "does not clearly state that the bearings are in rotational communication with the drive assembly housing" (page 2, last two lines). Applicant's representative calls the Examiner's attention to the claim language, which recites that the bearing is in rotational communication *between* the drive assembly housing and the drive shaft. The Examiner will recognize that this does not require the rotational communication *solely with* the drive assembly housing that the Examiner states is not enabled. As should be apparent, any bearing which fulfills its intended function will be in rotational communication between the two parts. Nevertheless, the Examiner will also observe that, even if the Examiner were to believe that the claim required rotation between the bearing and the housing, this could only have been achieved in the Foreman patent through the use of needle bearings placed between the drive shaft and the drive assembly housing or other bearings without races. Foreman, in his patent in column 7, lines 3 - 18 states that "the bearing 40 can be a roller bearing, a ball bearing or an equivalent bearing or

bearings used by those skilled in the art. The preferred bearing is a needle or roller bearing or one or more ball bearings." In that regard, the Examiner's attention is directed to lines 5 - 9 of page 9 of the present specification, which specifically recites:

Nevertheless, while less preferred, **it is contemplated herein to use bearings such as needle bearings and the like which do not include outer races**, and which would therefore consume less space, **and instead use bearing compartment 215 as the outer race**. Using bearings without a race provides a size advantage, since, without bearing races, bearing housing 210 may be made with a much smaller outside diameter more closely resembling or even the same as casing 140.

The Examiner will therefore recognize that, even if the interpretation of the claim language is still disputed and the Examiner requires rotation *with*, applicant's specification very clearly does enable this feature of the bearing being in rotational communication *with* the drive assembly housing, since a bearing without races will be in rotational communication with the bearing housing 210. Both Foreman and the applicant enabled a large and almost identical variety of bearing types which fulfill the intended function.

With reference to the Examiner's statements between the last line of page 2 of the outstanding office action and line 3 on page 3 regarding the claimed "seal configured to restrict contaminants," the American Heritage dictionary in fact defines the noun "seal" as "a device that joins two systems or elements in such a way as to prevent leakage." The Webster's Unabridged dictionary defines the noun seal as "something that seals, closes, or fastens tightly." The verb seal is defined as "to shut; to close; to close completely." Clearly, one of ordinary skill in the art would recognize that a device which prevents leakage, or which closes or closes completely would be, by definition, configured to restrict contaminants from passing thereby. In fact, that is the very purpose in the art for a seal. Further, the Examiner's recognition of the applicant's reference to water is noted, since water is, in the lubricant and bearing system, a contaminant as well. Further, and as supported by the attached declarations, the water is, in fact, the vehicle by which most other contaminants are transported into the bearing. Consequently, blocking the water does block not only water as a contaminant, but also blocks other contaminants that would otherwise be transported by the water, thereby certainly restricting contaminants as recited by the claim language.

With regard to the drive assembly housing and drive tube being an integral unit, the Examiner's remarks thereto are much appreciated, and the applicant's representative apologizes for incorrectly referencing element 200, which is the sealed bearing unit corresponding to Foreman's

"roller bearing drive assembly 20". The correct corresponding reference between Foreman's "drive assembly housing 42" is to applicant's "bearing housing 210", as correctly noted by the Examiner. The Examiner will observe that bearing housing 210 is the housing alone, and consequently does not include the bearings themselves. This is, of course, true of the Foreman patent as well, where drive assembly 20 includes the various additional components, while drive assembly **housing** 42 is only the housing. With this reference corrected, the Examiner will observe that both Foreman and the present applicant contemplated making the drive tube integral with this component (Foreman's "drive assembly housing 42" and applicant's "bearing housing 210"), as noted by the applicant on page 11, lines 6 - 7 of the applicant's specification.

With the reference to the diameters referred to by the Examiner referencing Foreman's claim 7, which requires the inside diameter of the enlarged assembly housing be larger than the inside diameter of the elongate drive tube, applicant's representative acknowledges that this recitation requires external threading which is not illustrated in figure 3. Nevertheless, the present applicant teaches the use of a female coupling on an otherwise nearly identical bearing unit 300 illustrated in figure 6. The requirement under 35 U.S.C. §112, first paragraph is statutorily based upon what the subject matter of the present application would reasonably convey to one skilled in the relevant art. It is the position of the applicant's representative that the use of a female coupling for the lower bearing recited in the claims is more than adequately taught in the present specification by figure 6 and the associated discussion of the use of the female connection to casing 140 described in the text on page 11 between lines 15 and 22:

Figures 5 - 7 illustrate a preferred top bearing unit 300, **which resembles bottom unit 200 in most features**, which will not be repeated herein. The corresponding drawing elements are identified by the second and third digits of the element numbers between the two units. **However, a few features are somewhat different. As can be seen, threads 313 form a female connection to casing 140, which will be exterior threaded. This arrangement assists with draining water from the bearing unit and threads, since casing 140 will be lower than bearing unit 300, and will therefore drain water from threads 313. With this arrangement, a stop 318 may optionally be provided past which casing 140 may not pass, but through which shaft 130 will pass.**

The Examiner will recognize that this section of text teaches the female coupling to those skilled in the art, and the text also clearly identifies the optional nature of stop 318. Following the teachings of applicant's own specification, one skilled in the art is clearly enabled to use the female connection

without stop. Consequently, the disclosure does enable one skilled in the art to select a housing inside diameter larger than the inside diameter of the drive tube.

With reference to the bearing having an outside diameter greater than the inside diameter of the drive tube, the applicant's representative maintains that figure 3 does illustrate this feature. The Examiner will recognize that, in order to be functional, bearings 260 - 264 on their outside diameter must engage with the inside diameter of bearing compartment 215. Consequently, the outside diameter of the bearings is equal to the inside diameter of bearing compartment 215. From the figure, the Examiner will also recognize that the inside diameter of casing 140 must be slightly less than the outside diameter of threads 212, in order for casing 140 to engage these threads. Consequently, casing 140 cannot have an inside diameter which is even as large as the outside diameter of threads 212. Casing 140 has an inside diameter smaller than threads 212, and the bearings have an outside diameter equal to the inside diameter of bearing compartment 215. The Examiner will clearly observe that the bearing compartment 215 inside diameter as illustrated is larger than the outside diameter of threads 212. Consequently, the outside diameter of bearings 260-264 must be greater than the inside diameter of the drive tube, as recited by the claims.

While the applicant's representative believes the drawing to be adequate for illustrating this feature, the Examiner does not have to rely upon the drawing figures to reach this same conclusion. The Examiner is referred to lines 7 - 9 on page 9 of applicant's specification, which states: "Using bearings without a race provides a size advantage, since, without bearing races, bearing housing 210 may be made with a much smaller outside diameter more closely resembling or even the same as casing 140." The Examiner will observe that this section of text is referring to the smallest possible outside diameter for bearings 260 - 264, and, that, even with the smallest outside diameter for the bearings, the bearing outside diameter will still be at least as great as the inside diameter of the drive tube. With the inclusion of races, the bearings will have a much greater diameter than inside diameter of the drive tube. Finally, figure 6 additionally teaches the use of a bearing having an inside diameter which is clearly greater than the outside diameter of the drive tube. Consequently, the applicant's representative respectfully points out that three different parts of the present specification disclose and/or teach the use of a bearing having an outside diameter greater than the inside diameter of the drive tube.

In view of the enablement provided by the teachings of applicant's top bearing housing 300,

which illustrates the external threads, claims 5 and 12 have been copied herein as new claims 38 and 39. The newly added claims are rewritten versions of the Foreman claims that instead use the words of the applicant's specification. In the event there remains any issue regarding the choice of specific words or synonyms, the Examiner is invited to propose a set of counts upon which to base the present interference.

Applicant's representative once again respectfully requests that the Examiner evaluate the applicability of MPEP 2305.04 in the present matter until a determination of proper inventorship may be made. Declarations are enclosed herewith and others were previously provided that establish the invention of the present subject matter and reduction to practice some four months prior to the nominal provisional filing by Mr. Foreman, and establish the public nature of the reduction to practice at that time. Exhibits A and B are provided herewith, although both exhibits have been previously provided, including an earlier provided color copy of Exhibit B.

Present claims 21 - 24 correspond to claims 1 - 4 of allowed published patent application number US 2001/0041482 which has matured into U.S. patent 6,361,388. Present claims 25 - 30 correspond to claims 6 - 11 of allowed published patent application number US 2001/0041482. Claim 31 corresponds to claim 13 of allowed published patent application number US 2001/0041482. Newly added claim 38 corresponds to claim 5 of allowed published patent application number US 2001/0041482, while newly added claim 39 corresponds to claim 12 of allowed published patent application number US 2001/0041482.

The Examiner is therefore respectfully requested to reconsider the outstanding rejection and institute the interference. Please charge all fees associated with this correspondence to deposit account 17-0155. The applicant is a small entity.

Sincerely,



Albert W. Watkins

reg. 31,676

320-363-7296

Enc.

The claims shown below are reprinted for the Examiner's convenience from the previous amendment, and are provided with references from the present application drawings and specification identifying support for the copied claims, with the noted corrections from the previous amendment to the reference of bearing housing 210 instead of bearing unit 200, and the corrected support for the diameters of housing, drive tube and bearings. The Examiner's assistance in identifying these deficiencies is most appreciated:

21. A drive assembly for a marine mud motor (100 in fig 1, pg 2, lines 12-18) comprising:

- a) an elongate drive tube (140, fig 1), configured for rotatably receiving a drive shaft (130, fig 1) therethrough, wherein a lower end of the drive tube includes;
- b) a drive assembly housing (210, fig 2), having a lower end;
- c) a bearing (260 - 264, fig 2), in rotational communication between the drive assembly housing and the drive shaft (page 10, lines 12 - 13); and
- d) a seal (230, 235, fig 2), contained within the drive assembly housing, configured to restrict contaminants from entering the drive assembly housing (page 9, last line - page 10, first line).

22. A drive assembly as in claim 21, further comprising a seal cap (220, fig 2), coupled to the lower end of the drive assembly housing (210, fig 2), configured for retaining the seal (230, 235, fig 2) within the drive assembly housing (Page 9, last paragraph, second sentence).

23. A drive assembly as in claim 22, wherein:

- a) the lower end of the drive assembly housing (210, fig 2) has screw threads (216 fig 3); and
- b) wherein the seal cap (220, fig 2) has screw threads (226 fig 3), to allow the seal cap to be threadably connected to the lower end of the drive assembly housing.

24. A drive assembly as in claim 22, wherein the seal cap (220, fig 2) includes at least one seal (230,

235, fig 2) contained within the seal cap (Page 9, last paragraph, second sentence).

25. A drive assembly as in claim 21, wherein the drive assembly housing (210, fig 2) and the drive tube (140, fig 1) are an integral unit (page 11, lines 6 - 7).

26. A drive assembly for a marine mud motor (100 in fig 1, pg 2, lines 12-18), comprising:

a) an elongate drive tube (140, fig 1) having an inside, an outside and a lower end, configured for rotatably receiving a drive shaft (130, fig 1) therethrough, wherein the lower end of the drive tube includes;

b) an enlarged drive assembly housing (210, fig 2) having an inside, an outside, an upper end and a lower end, wherein the inside diameter of the enlarged assembly housing is larger than the inside diameter of the elongate drive tube (fig 6, page 11, lines 15 - 22);

c) a bearing (260 - 264, fig 2), in rotational communication between the enlarged drive assembly housing (210, fig 2) and the drive shaft (130, fig 1); and

d) a seal (230, 235, fig 2), contained within the enlarged drive assembly housing (210, fig 2), configured to restrict contaminants from entering the enlarged drive assembly housing (page 9, last line - page 10, first line).

27. A drive assembly as in claim 26, wherein the bearing (260 - 264, fig 2) includes an outside diameter larger than the inside diameter (fig 3, page 9 lines 7 - 9, fig 6) of the drive tube (140, fig 1).

28. A drive assembly as in claim 26, further comprising a seal cap (220, fig 2), coupled to the lower end of the enlarged drive assembly housing (210, fig 2), configured for retaining the seal (230, 235, fig 2) within the enlarged drive assembly housing (210, fig 2).

29. A drive assembly as in claim 26, wherein:

a) the lower end of the enlarged drive assembly housing (210, fig 2) has screw threads (216 fig 3); and

b) wherein the seal cap (220, fig 2) has screw threads (226 fig 3), to allow the seal cap to be threadably coupled to the lower end of the enlarged drive assembly housing (210, fig 2).

30. A drive assembly as in claim 28, wherein the seal cap (220, fig 2) includes at least one seal (230, 235, fig 2) contained within the seal cap.

31. A drive assembly as in claim 26, wherein the enlarged drive assembly housing (210, fig 2) and the drive tube (140, fig 1) are an integral unit (page 11, lines 6 - 7).